Introduction: The use of the balloon aortic valvuloplasty (BAV) has risen with the development of transcatheter aortic valve stenosis (TAVR). The role of BAV should be reevaluated as a part of the complex treatment of severe aortic stenosis in high risk patients.

Aim: We evaluated the patient characteristics, peri-procedural complications and long-term outcome after BAV. We also present our results of the external beam radiation therapy (EBRT) impact on restenosis after BAV.

Methods: We retrospectively analyzed all of the patients who underwent BAV from January 2009 to June 2013 and stratified our cohort into 3 groups: BAV as a bridge to TAVR/SAVR, BAV as a final therapy and consecutive BAV. Results: We analyzed 228 patients (mean age 82.5±6.3, logistic EuroSCORE 17.0±11.4). After BAV aortic valve area increased (0.60±0.20 cm² to 0.72±0.21 cm², p<0.001) and mean aortic gradient decreased (48.8±15.7 mmHg to 37.1±11.9 mmHg, p<0.001). Major intra-hospital complications occurred in 11.4% with three procedure-related deaths (1.3%). BAV bridged to TAVR had a better outcome than BAV alone. EBRT showed no effect on the long-term outcome.

KEYWORDS: balloon, aortic, valvuloplasty, stenosis, outcomes.